Right Care, Right Time, Right Setting

Transforming Rural Neurology Care with a Hybrid Model
June 18th , 2024

Dr. Saurabh Chandra, MD, PhD
Chief Telehealth Officer
Associate Professor,
Department of Medicine
University of Mississippi Medical Center.

A National Telehealth Center of Excellence

The University of Mississippi Medical Center
Center for Telehealth

Disclosures

- I have no actual or potential conflict of interest in relation to this program/presentation.
- I have no relevant financial interest in any organizations related to commercial products or services discussed in this program.

Acknowledgement

- This presentation was made possible by the Health Resources and Services Administration (HRSA) of the US Department of Health and Human Services (HHS) as part of the National Telehealth Centers of Excellence Award (U66RH31459). The contents are those of the author(s) and do not necessarily represent the official views of nor an endorsement by the HRSA, HHS or the US Government.

Objectives

- Introduction to the UMMC Center for Telehealth and the Center of Excellence.
- Describe the hybrid Teleneurology model to bridge neurological care in rural areas.

Objectives

- Introduction to the CFT (who we are, what we do)
- Current Telehealth Trends
- Why is Telehealth still relevant in the post-pandemic era
- How can DOM contribute to improving health outcomes in the post-pandemic era via Telehealth

Introduction to the Center for Telehealth at UMMC

Center for Telehealth History

1990s

Diagnostic test interpretation Adult and Pediatric Cardiology

2003

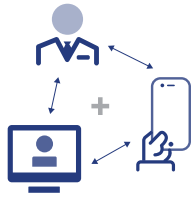
First videoconferencing of telemedicine
Emergency Medicine

2008

TelePsychiatry Begins

2011

Full-time staff assigned to Telehealth



2013

Center for Telehealth formed 24/7 Telehealth Call Center

The University of Mississippi Medical Center
Center for Telehealth

Center for Telehealth History

2017 — Telehealth Center of Excellence awarded to UMMC

2020 — Rapid Response to COVID-19 Pandemic Integration of A/V capability in EMR

2021 — FCC Funding for rpm

2021 — Telehealth Center of Excellence awarded to UMMC

2022 — Preferred Telehealth Provider for State BCBS Members for Urgent Care, Behavioral Health and Medical Nutrition Therapy

2022 — RFP Awarded for School Based Telehealth

OUR ROLE AS A NATIONAL CENTER OF EXCELLENCE

UMMC earned the "Center of Excellence" designation from HRSA (October 2017). The CfT is expected to guide/support new and established telehealth programs across the nation, and conduct focused research on telehealth outcomes/economics

1

Improve access to healthcare via Telehealth services

+

2

Expand overall innovation and the research portfolio

+

3

Assess telehealth's impact on health care spending

+

4

Collaborate and share best practices

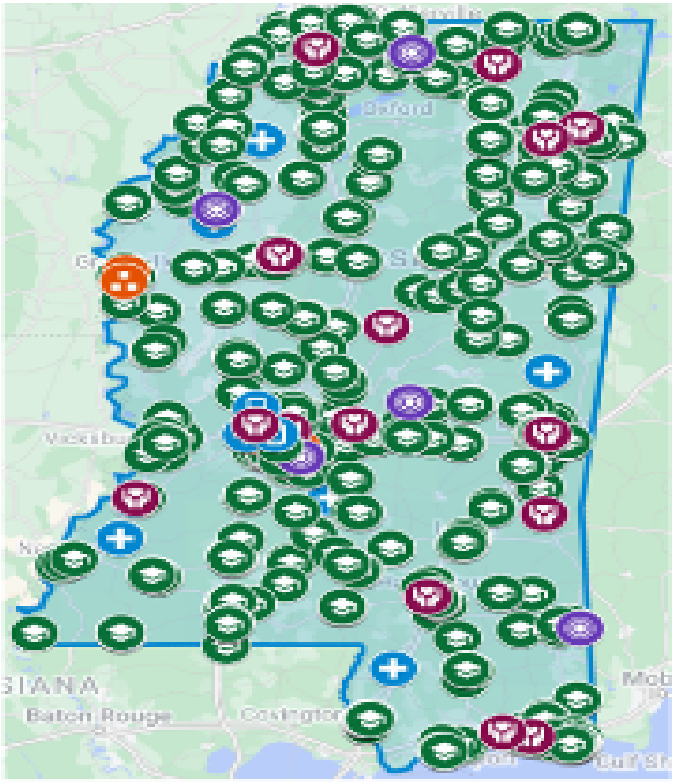
COMMITTED TO SERVING MISSISSIPPI COMMUNITIES

TELEHEALTH PLAYS A KEY ROLE BY DRAMATICALLY INCREASING ACCESS TO CARE IN RURAL AND UNDERSERVED AREAS ACROSS THE STATE

53 OF MISSISSIPPI'S 82 COUNTIES ARE MORE THAN A 40 MINUTE DRIVE FROM SPECIALTY SERVICES.

UMMC TELEHEALTH HELPS COMMUNITIES OFFER MUCH-NEEDED MEDICAL CARE IN AREAS WITH FEW OR NO MEDICAL SPECIALTIES.

- School-Based Telehealth
- TelEmergency
- TeleMental Health
- TeleInfectious Disease
- TeleNetworking
- Corporate
- UMMC2You



The University of Mississippi MEDICAL CENTER
Center for Telehealth

COE Website

Telehealth Centers of Excellence

Resources Projects Events About News Contact

A HRSA-funded collaboration with the Medical University of South Carolina and the University of Mississippi Medical Center

The Telehealth Centers of Excellence (COEs) develop resources for telehealth organizations, researchers, providers, and staff based on their experience, research and innovation.

About COEs

Share in our experiences:
Search through our developed resources.

Search... Search

Recent Resources

AUGUST 17, 2023
Establishing a Centralized Virtual Visit Support Team: Early Insights
Resource › Publications

JULY 19, 2023
A New Frontier in Telehealth Research: A National Telehealth Data Warehouse
Resource › Publications

JULY 18, 2023
Webinar: Telehealth Implementation of Trauma-Focused Treatment for Underserved Youth in Low-Resourced Contexts in the US and Puerto Rico
Resource › Presentations

Upcoming Events

SEPTEMBER 2023

FRI 15

Project ECHO®

SEPTEMBER 13 @ 11:45 AM – SEPTEMBER 26 @ 12:45 PM
UMMC - Project ECHO Dermatology

UMMC - Project ECHO Dermatology

Zoom Platform – Dermatology ECHO

FRI 22

Project ECHO®

Projects

- Behavioral Health
- Emergency Health
- Health Equity
- HIV/AIDS
- Infrastructure
- Maternal Health
- Medicare & Medicaid

The University of Mississippi Medical Center
Center for Telehealth

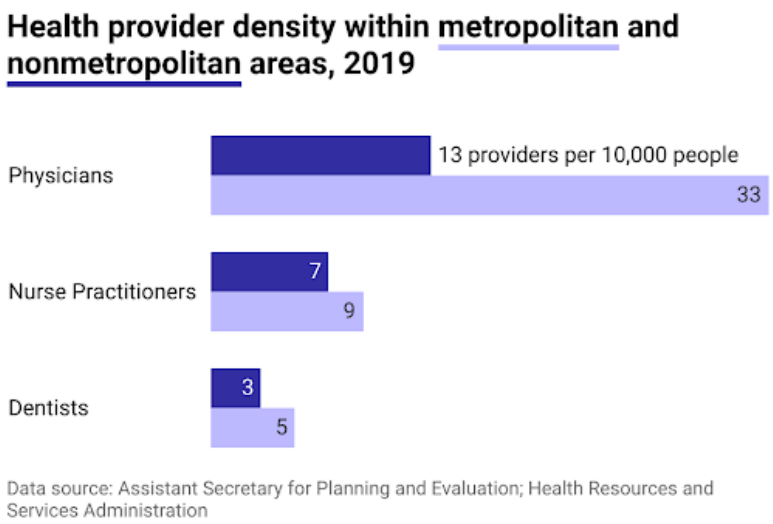
Shortage of Specialists in Mississippi

Limited access to specialty care is a major cause of inequity in healthcare

- More work for PCPs and staff
- Delayed care for patients
- More ER use
- Worse clinical outcomes

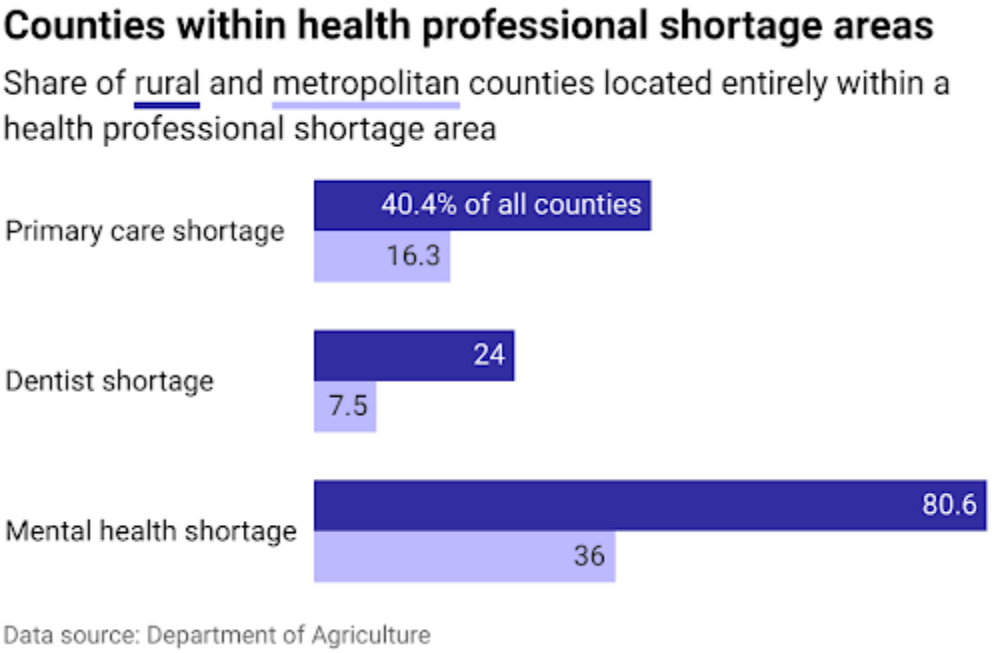
Rural Health Inequities, by the Numbers

- Primary care physicians.
  - Rural: 55.1 per 100,000 residents in 2013.
  - Urban: 79.3 per 100,000 in 2013.[1]
- Specialists. The National Rural Health Association reports there are only
  - Rural: 30 specialists per 100,000 population.
  - Urban: 263 specialists per 100,000 population.[2]
- Death rate.
  - Rural: 830.5 per 100,000 people in 2014
  - Urban: 704.3 per 100,000 in 2014.[1]



1. AAMC. https://www.aamc.org/news/health-disparities-affect-millions-rural-us-communities#:~:text=Specialists.,specialists%20per%20100%2C000%20urban%20residents.
2. National Rural Health Association Report.

Rural Health Inequities, by the Numbers



The University of Mississippi MEDICAL CENTER
Center for Telehealth

Rural Health Inequities, by the Numbers

- Nearly 4 in 5 rural U.S. communities are short on medical staff.
- Although nearly 20% of the U.S. population lives in rural areas, less than 10% of U.S. doctors practice in rural areas.
- Center for Healthcare Quality and Payment Reform reports that 34 of Mississippi's 74 rural hospitals are struggling financially and at risk of closure.

Shortage of Neurologists

- A national shortage of neurologists is creating "neurology deserts" around the country.
- Leads to longer wait and driving times for patients. This is particularly problematic for our patients with mobility issues such as stroke or spinal cord injury survivors.
- Overall, 24% of people with a neurologic condition were seen by a neurologist.(Rural 21% vs urban 27%).[1]

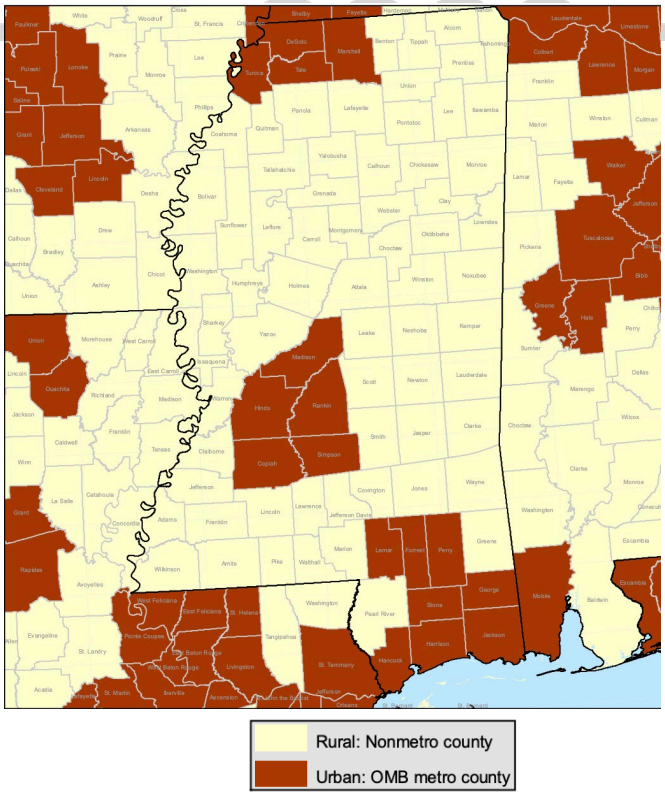
1. Lin CC, Callaghan BC, Burke JF, et al. Geographic variation in neurologist density and neurologic care in the United States. *Neurology*. 2021;96(3):e309-e321.

Shortage of Neurologists

- Increasing demand:
  - Recent advances in treatment of dementias, migraine, stroke etc.
  - Aging population.
- Over the next 7 to 27 years, as the number of Americans over age 65 increases, the incidences of Parkinson's and dementia are set to double, and stroke cases are expected to rise by 20%.
- Number of neurologists who treat patients in the United States grew by only 598 over the last decade, from 12,761 to 13,359.
- At UMMC, we see patients from AL and LA in addition to our own state, many of whom drive for about 3 hours.

Mississippi Demographics

- 18% of US lives in rural areas. By contrast, over half (54%) of the MS lives in what is considered a rural or nonmetropolitan area.
- There are 82 counties in Mississippi, and 65 of them are considered rural.
- All 82 counties in Mississippi are designated as either whole or partial-county Medically Underserved Areas (MUA).
- More than half of Mississippi's doctors practice in four main urban areas.



Hybrid Teleneurology model

- UMMC collaborated with South Central Regional Medical Center to implement a hybrid care model for rural Neurology inpatients in Laurel, MS.
- SCRMC has only one in-patient neurologist. We provide gap coverage and cover 15 days every month.
- We are available 24x7 for any emergent consults and we provide rounding service daily for non emergent consults and follow up.

Our teleneurology model

- We utilize audio-video technology. Equipment provided by UMMC Center of Telehealth via a grant from HRSA.
- We have full access to patients medical record including MRI/CT images.
- We document in the native electronic medical record and communicate with local physicians via a HIPAA compliant communication app.

The University of Mississippi MEDICAL CENTER
Center for Telehealth

Our embedded research project

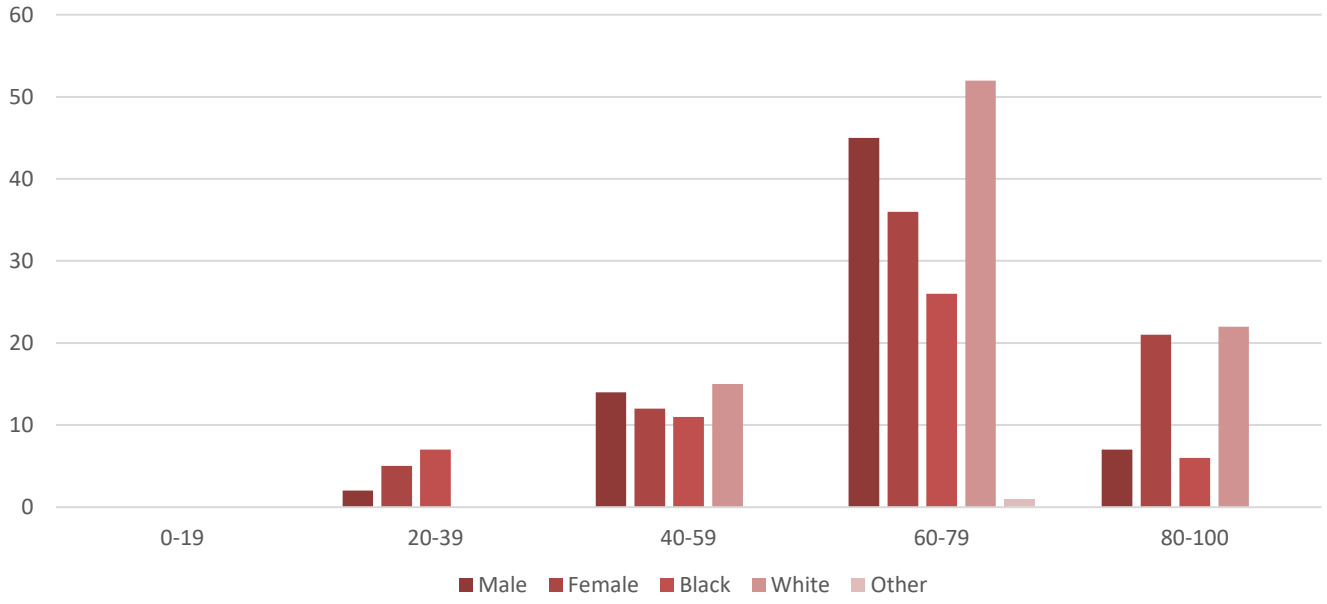
Retrospective, observational, quality improvement study evaluating telehealth utilization among inpatient Neurology patients between January 18-June 30 of 2023.

Hybrid model consisted of 15 days of in-person neurology consults and follow up visits followed by 15 days of patient care by a remote teleneurology team.

1 neurologist was available for in-person care, while 8 neurologists participated as part of the remote teleneurology team.

Data were collected on patient demographics, diagnoses, service types, and care utilizations.

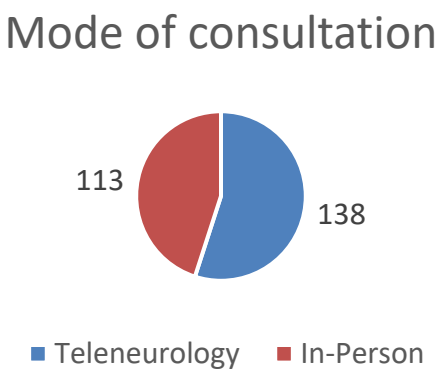
Data: Patient Demographics



The University of Mississippi MEDICAL CENTER
Center for Telehealth

Results

- 138 of 251 total patients seen exclusively through teleneurology team.
- 4 patients required transfer to higher level of care.
- Common diagnoses via telehealth:
  - Stroke (32%)
  - Epilepsy (10%)
  - Encephalopathy (8%).
- 61% of teleneurology patients were discharged home with self-care or home health care.
- Other diagnoses included myocardial infarction, acute kidney injury, and sepsis, among others.



Conclusion

It is feasible to implement teleneurology service in rural Mississippi.

A hybrid model is feasible and helps with gap coverage where rural hospitals do not have personnel for 24x7 coverage.

We can provide specialty care via telemedicine that the underserved population would otherwise not have.

Teleneurology service may reduce interfacility transfers for specialty care.

Future research is necessary to evaluate the long-term clinical outcomes and patient satisfaction with Teleneurology services.

It’s all About the Team!

Tearsanee Davis
FNP, DNP, FAANP
Director of Clinical Programs and Strategy

Saurabh Chandra, MD, PhD
Chief Telehealth Officer
Project Director

Gregrey Hall
Director of IT

Kyle Brewer
Administrator

Jennifer Bryant
Director of Operations

Christina Wright, BS
Director of School Based Telehealth

Hollie Thomas, MHA - Program Manager

La'Kitha Hughes, PhD
Grants Manager

Alice Lee, MHA
Contracts Manager

Tanya Tucker
Clinical Program Manager

Yunxi Zhang, PhD
Associate Research Director, Biostatistician

Donald Clark, MD
Medical Director RPM

John Swint, PhD
Professor of Health Economics. UTHSC

Lindsey Kuiper, PhD
Research Administrator

Ying Zhang
Enterprise Informatics Analyst

Terri Morgan
Administrative Assistant

Annette Wesco
Revenue Manager

Project Managers

Vanessa Trammell
MS

DeAngela Ivory
MPH

Amani Bailey
DrPH, MPH, MA

Betty Griffith
BS

Joy Johnson
BS

Astria Goolsby
BS

Angie Haller

IT

Toby Andrews

Ray King

Michael Sanders

Lawson Tucker

RN Care Coordinators

Shirley Stasher

Shonda Ross

Cindy Broome

Lou Stapleton

Cheryl Lasource
Darries Langston
Judith Groff
Susan Lewis
Tiffany Reagan

Pharmacist

Carly Brown, PharmD

The University of Mississippi MEDICAL CENTER
Center for Telehealth

Questions?

Bridging the gaps in quality healthcare

schandra@umc.edu